Important: This model is considered experimental and its accuracy and reliability are not guaranteed. This resource should not be used as the sole resource for decision making.

What does this model do?

The Weather Research and Forecasting Model (WRF) is a mesoscale numerical weather prediction system that is used for both operational forecasting as well as atmospheric research. Most numerical weather forecast models are run at a horizontal resolution of anywhere from 4 to upwards of 36 km, meaning they are unable to fully resolve the complex terrain (including lakes) of the region. The WRF model run locally at NWS Spokane, is run at 1.3 km resolution, and thus able to better address these complex terrain features; in particular, Lake Pend Oreille. While better, the complex terrain of this area is still not fully resolved as shown by the Model Terrain Height on the previous page. Because the finer resolution model needs to be aware of upstream weather, it relies on data from the coarser resolution NAM12 for this information.

Things to be aware of:

- The wind plotted on this page is the 10 meter wind, as this is the height that most wind observations are calculated at. These wind speeds may not be fully representative of conditions at the surface.
- The streamline arrows point in the direction the wind is blowing to. The shaded colors correspond to the expected wind speed at 10 meters above the surface.
- As mentioned above, the model relies on the coarser resolution NAM12 for its initial boundary conditions. Due to this, any error or biases in the NAM12 may spill over into the locally run higher resolution WRF model.
- Convection (thunderstorms) in the area can produce outflow winds with higher speeds and more erratic directions than the ambient environmental winds. This means that if thunderstorms are in the forecast or shown in the model, the models winds may be drastically different than observed, depending on whether or not the model accurately produced thunderstorms or not.
- The composite reflectivity parameter can be used to show one possible scenario of what the radar may look like for the corresponding forecast time. It is important to remember that the exact placement of where the model produces showers or thunderstorms will not necessarily line up with their exact location in reality. Lower dBZ values (blue and green shades) generally correspond to lighter activity whereas higher dBZ values (reds and pinks) generally correspond to heavier activity.